



Multi-Agency Radiation Survey and Assessment of the Subsurface (MARSAS) Briefing for EPA-SAB-RAC

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Need for MARSAS

Defining the Problem

- Subsurface radioactivity may not be measurable from the surface
- Protect ground water
- Find dispersed and discrete sources

Identifying the Decision

- Does the volume of subsurface soil meet the release criterion?

MARSAS Scope

- The Workgroup has considered limiting the scope to the design and performance of final status surveys for “a snapshot in time” in the unsaturated (vadose) zone.

MARSAS Non-Scope Areas*

- Surface soils
- Ground water
- Long-term monitoring

* Note: This is not an exhaustive list of non-scope areas.

MARSAS Purpose

- To develop subsurface final status survey design methods and protocols that parallel MARSSIM

MARSAS Framework Questions Before the Workgroup

- Can you limit the scope to the unsaturated zone?
- How do you make the decision that the subsurface is non-impacted?
- How do you determine that remediation is necessary?
- How do you combine MARSSIM and MARSAS surveys into a single survey?

Identified Research Areas

- Cannot scan 100% – How do you keep confidence high and uncertainty low?
- Sampling – need mechanized equipment (e.g., drill rig, push-probe rig)
- Analytical – third dimension adds additional layers to the decision, each layer requires sampling

Identified Research Areas (Continued)

- Vadose zone – Ground water interface
- Dispersed groundwater plume versus discrete sources (e.g., “buried treasure”)
- Incorporating surrogate data into the decision process (e.g., geophysical)

MARSAS Status and Plans

- MARSAS DRAFT 1 (MARSSIM took approximately 10 Drafts to finalize)
- EPA-SAB-RAC Consult scheduled for February 2003
- Literature Search completed with results provided to EPA-SAB-RAC for Consult
- Workgroup will review EPA-SAB-RAC and literature search results prior to further developing chapters
- Projected Internal Agency Review – First Qtr. FY-05

MARSSIM Workgroup Questions to the EPA-SAB-RAC

- Are there any comments on our technical approach?
- Any suggestions for additional approaches to this problem?
- What pitfalls might we encounter?

Questions

